(p. 1) confirms his discovery of a glacial conglomerate, the Pakhuis bed, in the Table Mountain series near Clanwilliam. A thousand feet of sandstones, probably fluviatile, overlies these glacial strata, and the Devonian Bokkeveld beds follow, so that the antiquity of the conglomerate, as compared with the well known Dwyka beds, is put beyond a doubt. Mr. Schwarz (*ibid.*, p. 9) makes a block of gneiss from the volcano of Tristan d'Acunha serve as the text for a dissertation on oceanic islands in general, which he expands further into a treatise on several points in theoretical geology. We confess to a feeling of nightmare, as the one innocent specimen leads us on into enormous fields of speculation, where a considerable area is occupied by the slaying of the slain. When, after twenty-six pages, we reach the question, "What, after all, are volcanoes?" we are tempted to turn over the next eight, to where the description of "the rocks of Tristan d'Acunha" nestles humbly as an appendix. Mr. A. L. du Toit (p. 53) furnishes a serious paper on the forming of the Drakensberg, which summarises many recent observations. Stress is laid on the numerous volcanic necks and lava-flows, which are later than the Cave Sandstone. In some cases, the vents contain no igneous matter, but merely masses of exploded sandstone and shale, in a ground of pulverised grit. Dr. R. Broom re-opens (*ibid.*, p. 73) the whole question of the age and affinities of Tritylodon. Those who were present at the memorable meeting in London in 1884, when Owen laid upon the table what was believed to be the oldest known mammalian skull, will read with some surprise of the doubt which hangs over the locality and horizon of the fossil. Dr. Broom believes that it came, as then stated, from Basutoland; if so, it is from the Stormberg beds, which he regards as of Lower Jurassic age. As was pointed out in Nature, vol. lxxii. p. 36, the reference of the reptilian beds of South Africa to the Permian may carry back the Stormberg beds also, and this will make Dr. Broom's defence of Tritylodon as a mammal, and not a reptile, of even greater interest as research goes on.

Dr. A. E. Salter (*Proceedings of the Geologists' Association*, vol. xix. p. 1) produces a large amount of original evidence bearing on the sources of the superficial deposits found above the Jurassic and Cretaceous strata to the south, north-west, and west of London. The area studied is a wide one, and Dr. Salter traces fluviatile action in it to an epoch before the deposition of the "Boulder-clay." Among his interesting conclusions, we note that a large amount of "drift" material in the lower basin of the Thames is of southern origin, suggesting that "the southern slope was formerly more extensive than at present," the distribution of such material having been probably aided by earth-movements. In support of this latter contention, it is shown that Lower Greensand chert from the Wealden area occurs 650 feet above the sea at Goring Gap. The Lower Thames Valley is thus held to be of recent geological age (pp. 17, 25, &c.). Other evidence is adduced of the modification of the general direction of drainage by earth-movements since the higher gravels were deposited.

Dr. O. Mann begins, in the *Sitzungsberichte der Gesellschaft Isis* (1904, p. 61), what promises to be a detailed account of the tin-deposits of the Erzgebirge, including a microscopic examination of the veins of quartz, tourmaline, and cassiterite.

Dr. J. W. Spencer further emphasises his views as to submerged river-channels and continental shelves in two notices of the work of Hull and Nansen (*American Geologist*, vol. xxxv. pp. 152 and 222). He provides us also with a useful bibliography of the subject in relation to America (*American Journal of Science*, vol. xix. p. 341).

A preliminary note on the geology of the provinces of Tsang and Ü in Tibet, by H. H. Hayden (*Records, Geol. Survey of India*, vol. xxxii. p. 160), forms a pleasant outcome of the recent political expedition. Marine Cainozoic beds are found north of the Sikkim border, and there is evidence of a former considerable extension of glaciers northward from the Himalayas. The granite near Lhasa is intrusive in a wide area of Jurassic strata, which have suffered much from crushing and metamorphism. The country does not appear rich in minerals, and even the gems are imported.

G. A. J. C.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

Cambridge.—Amongst the list of donations to the university benefaction fund which was recently published by the Vice-Chancellor the following sums may be mentioned:—the Right Hon. Lord Rayleigh, 5000*l.*; the Right Hon. Lord Iveagh (further donation), 1000*l.*; C. J. Heywood, Esq., 100*l.*; J. Lumb, Esq., 100*l.* Besides these a number of smaller sums have been received, some of which are especially allocated to the Huddersfield lectureship in pathology. In addition to these sums the Cambridge University Association has collected more than 6000*l.* towards the fund for the university library. The success of this is due almost entirely to the energy of the registrary. The Schuter scholarship in St. Bartholomew's Hospital has been awarded to Mr. R. B. S. Sewell, late scholar of Christ's College.

Dr. T. G. Pinches has been invited to join the staff of the institute of archæology of the University of Liverpool as assyriologist.

The resignation of Mr. H. J. L. Beadnell from his position on the Geological Survey of Egypt is announced. Mr. Beadnell has been connected with the survey since 1896, *i.e.* from the time it was established.

From a long list of recent changes we extract the following appointments to professorships at technical colleges:—Prof. M. Disteli at Dresden, for descriptive geometry; Mr. Camillo Körner and Prof. K. Zsigmondy at Prague, for machine construction and mathematics respectively; Dr. Leo Grünmach at Berlin; Dr. Gustav Rasch at Aachen; Dr. Clarence Feldmann at Delft, for electrotechnics; Dr. A. Tobler at Zurich, for applied electricity; Prof. F. Schilling at Charlottenburg, for geometry. W. König, of Greifswald, has been appointed professor of physics at the University of Giessen, and Dr. Karl Stöchl professor of mathematics and physics at Passau.

The proposal made by the Emperor of Germany for the temporary interchange of professors with America for a course of lectures is leading to a number of important results. Harvard University has invited Prof. Ostwald, of Leipzig, to give a half year's course, Columbia University has secured lectures from Prof. V. F. Bjerknes, of Stockholm, on "Fields of Force," and from Prof. H. A. Lorentz, of Leyden, on "Extensions of Maxwell's Electromagnetic Theory." Is Great Britain with its usual insularity going to keep aloof from the new movement? It is hardly likely that any proposal from our country would fail to obtain hearty support either in Germany or in America.

SOCIETIES AND ACADEMIES.

London.

Royal Society, March 9.—"The Rate of Transmission of the Guatemala Earthquake of April 19, 1902." By R. D. **Oldham.**

This paper contains a complete study of an earthquake from the point of view of the rate of transmission. The time and place of origin are known with a sufficient degree of accuracy, and the shock was of sufficient power to give distinct records even at 160° from the origin. Three phases of wave motion are recognised, the third phase including all those which are distinguished in Japan by the symbols $P_3 \ldots P_8$, as the author believes that it is doubtful whether there is any real difference in the character of the wave motion, or whether, in these so-called phases, we have not waves of essentially similar nature, but varying rates of propagation. The first and second phases are, however, of distinct character, being mass-waves, differing from each other not only in rate of propagation but in character of wave motion. Of these, the first phase shows a continuous increase in the apparent rate of propagation as the distance from the origin becomes greater, and seems to emerge almost simultaneously at all points more than 145° from the origin. The second phase shows an increase in the apparent rate of propagation up to 100°, and a decrease beyond this; the result is unexpected, but the author, while remarking that it must not be rejected on that account, also points out that the second phase is much less well marked in the distant records than in the nearer ones. From the figures given in the paper, it appears that the times taken by the three phases of wave motion to travel from their origin to its antipodes are respectively about 20, 50, and 100 minutes.

Physical Society, June 30.—Dr. R. T. Glazebrook, F.R.S., past-president, in the chair.—The comparison of electric fields by means of an oscillating electric needle: D. **Owen.** This paper describes experiments which show how an "electric needle" may be used to measure electric fields in a manner similar to that in which a magnetic field is measured by an oscillating magnetic needle. The needles used were cylindrical in form, of aluminium or of brass, and were suspended by quartz fibres three or four inches in length. The couple on the needle when disturbed from the direction of the field is proportional to the square of the field strength. For small displacements the needle vibrates isochronously, the frequency being proportional to the electric force. It may be used in alternating as well as in steady fields, and may be applied to illustrate many of the laws of electrostatics. The disturbing effect of the needle upon the field is considered; in particular its effect when placed in a uniform field. It is shown by experiments that the disturbing effect falls off rapidly with the distance from the needle, and is inappreciable (in the case of a needle $1\frac{1}{2}$ cm. long) at a distance of twice the length of the needle. With regard to the effect of the dimensions of the needle upon the frequency (for given field), while the restoring couple decreases rapidly with decrease of size, yet the moment of inertia decreases more rapidly, so that the smaller the needle the greater the frequency, and also the smaller the disturbing effect. The shielding effect of some dielectric materials was examined in the following way:—A needle was suspended centrally in the uniform field between a pair of parallel plates. A thin-walled cylinder of the dielectric was placed around the needle, and the shielding action denoted by a fall in frequency of the needle. Glass and mica were found to effect perfect shielding. Ordinary paper shields; but when thoroughly dried by heat the electric field is transmitted undiminished only to fall off to zero after a minute or two's exposure to the air. Dry paper soaked in melted paraffin-wax transmits the field perfectly and for an indefinite time. The paper concludes by pointing out that an electric needle suspended between a pair of parallel plates forms a simple means of measuring high voltages, since the frequency of vibration is simply proportional to the voltage between the plates.—The magneto-optics of sodium vapour and the rotatory dispersion formula: Prof. R. W. **Wood.** It has been shown in a previous paper that the vapour of metallic sodium is an ideal substance for investigating the effect of a strong absorption band on the magnetic rotation of the plane of polarisation. The preliminary work was not very satisfactory, as the method employed did not admit of very accurate determinations of the wave-lengths. Improvements in the methods of observation and design of the apparatus have been accompanied by an increase in accuracy, and accurate readings have been obtained for as many as nine different values of λ between D_1 and D_2. Rotations as great as 1440° (four complete revolutions) have actually been observed, and this with a 10 cm. column of not very dense vapour in a field of 2000 C.G.S. units. In the present paper the magneto-optics of the vapour for light travelling along the lines of force are discussed. The sodium was heated in a tube of thin steel, the ends of which projected from the helices of the magnet. It was found that the field strength within the steel tube did not differ greatly from that obtained when glass tubes were used. A short piece of small brass tubing is brazed into one end of the steel tube, through which the steel tube is exhausted. A good vacuum is essential, all traces of rotation disappearing in hydrogen or nitrogen at atmospheric pressure. Light from an arc-lamp made parallel by a lens is passed through a Nicol's prism, the steel tube, and a second Nicol, after which it is brought to a focus upon the slit of a spectroscope by means of a second lens. In the present case, a concave grating of 14 feet radius was used instead of a spectroscope, the observations being made both visually and by means of photography. The paper then describes the phenomena which are presented when the sodium vapour is formed in the magnetic field. In the case of very dense vapours the rotation has been measured over a considerable range of wave-lengths, namely, throughout the region comprised between $\lambda=5840$ and $\lambda=5922$. The rotation constant of D_2 was found to be about double that of D_1. Drude, in his "Lehrbuch der Optik," has given two formulæ for the magnetic rotatory dispersion, the first of which, developed from the hypothesis of molecular currents, calls for an anomalous effect on crossing the band, and does not apply to sodium vapour. The second, developed from the Hall-effect hypothesis, predicts rotations of similar sign and equal magnitude for wave-lengths symmetrically situated in the spectrum, with respect to the centre of the absorption-band. It seems likely that the molecular currents play some part, and that the formula built up on the hypothesis of the Hall-effect is incomplete. However, the latter formula represents the rotation outside of the D-lines with great accuracy, while between the lines it gives in some cases a curve which is elevated somewhat above the experimental curve. The paper concludes with an account of the bright-line spectrum produced by magnetic rotation which presents itself when the Nicol's prisms of the apparatus are crossed. The spectrum, which at first could only be seen with difficulty, was finally obtained of such brilliancy that it could be photographed with a 14-feet concave grating. A good vacuum was found to be an essential condition, the presence of inert gases causing a faintness of the lines.—The fluorescence of sodium vapour: Prof. R. W. **Wood.** The fluorescence of sodium vapour has been investigated by allowing light of various wave-lengths to illuminate the vapour, and then studying the light emitted with a spectroscope. Approximately homogeneous light of any desired wave-length is obtained by means of a monochromatic illuminator. Some sodium is placed in a horizontal steel tube fitted with steel ends, in one of which is a circular aperture bored just above the centre. The tube is heated and the vapour rises until it reaches the hole. The light from the monochromatic illuminator passes through the hole and falls upon the vapour. The fluorescent light is then observed by means of a spectroscope either visually or by photography. It is essential that the incident light should not traverse an appreciable amount of the vapour, or the fluorescent effects are masked by those of absorption. The bright lines of the fluorescent spectrum are by no means the exact complement of the absorption spectrum. Very remarkable effects have been observed when the vapour is illuminated with a *very* narrow band of approximately homogeneous light, the lines in the fluorescent spectrum changing their position and appearing to dance about with the slightest change in the wave-length of the exciting light. The motion is of course only an illusion, lines disappearing and others re-appearing, like the sparks of a spinthariscope. Stokes's law is violated in a most flagrant manner, bright lines coming out on both sides of the excited region. The behaviour of the spectrum indicates that we are dealing with a number of groups of electrons, each group containing a large number of vibrators. The excitation of one of these vibrators sets the whole group going, but does not start disturbances in the other groups.

Edinburgh.

Royal Society, June 19.—Dr R. H. Traquair in the chair.—A comparative study of the dominant phanerogamic and higher cryptogamic flora of aquatic habit: George **West.** The paper referred to three loch areas of Scotland, namely, Loch Ness, the district between Nairn and Forres, and the Island of Lismore. In the first district the waters were peaty, in the third they were heavily charged with lime and were free of peat, while in the second district the waters were neither limey nor peaty, but were turbid and unwholesome in appearance, due to the presence of marsh gas. These characteristics influenced in a marked degree the habit of the aquatic flora, the distribution and growth of which were also dependent on the direction of the prevailing winds. Interesting details were given.—Les concrétions phosphatées de l'Agulhas Bank (Cape of Good Hope): Dr. Léon W. **Collet**; avec une description de la glauconie qu'elles renferment, par Gabriel W. **Lee.** The work was undertaken under the direction of Sir John Murray, whose large collection of phosphatic nodules had been greatly enriched by the concretions dredged off the Cape of Good Hope by the steamer of the Department of Agriculture, and presented by Dr. Gilchrist, the Government biologist. The concretions were found beyond the 100-fathom line down to depths of 800 fathoms. Their occurrence, as already pointed out by Sir John Murray, is closely connected with the oceanographical question of the variability of temperature in certain regions. The mingling of two currents of different temperature is necessarily attended by a great mortality among the creatures living in these waters, and their dead bodies falling to the bottom produce ammonia and phosphate of lime. There can be little doubt that the glauconite and phosphates found in geological strata have been formed under similar conditions. In the material from the Agulhas Bank two kinds of nodules were found:—(1) those with Foraminifera and other calcareous organisms; (2) those without carbonate of lime and with the glauconite grains cemented together by phosphatic matter. These implied different modes of formation. Mr. Lee recognised two kinds of glauconite in the phosphatic nodules, the occurrence in the one kind being in the form of grains with definite contours, in the other in the form of a diffused pigment.—Note on some of the magnetic properties of demagnetised and annealed iron: James **Russell.** The iron was demagnetised by one of three methods, namely, by decreasing reversals of magnetic force co-directional with the field to be afterwards applied in the study of the permeability, by decreasing reversals of a transverse force, or by annealing. The permeabilities after these processes of demagnetisation were carried out were then compared, and various interesting conclusions arrived at. One very remarkable result was that, however much the values of the permeability differed under these varied conditions, the value of the coercive force (as defined by Hopkinson) was almost exactly the same in all cases.—Certain mathematical instruments for graphically indicating the direction of refracted and reflected light rays: J. R. **Milne.** These simple devices were not only useful in demonstrating the course of reflected and refracted rays, but could also be effectively used in graphically solving problems in geometrical optics the algebraic solution of which presented insurmountable difficulties in the way of carrying out the necessary eliminations.—On the hydrodynamical theory of seiches: Prof. **Chrystal.** This paper contained the mathematical solution of problems suggested by the phenomena of seiches in lakes, and showed how the periods of the various possible seiches and the positions of the nodes were affected by the contour of the lake bottom.—On a group of linear differential equations of the second order, including Chrystal's seiche-equations as special cases: Dr. **Halm.** This formed an important sequel to the foregoing paper, giving a mode of arriving at a solution of a case in which the direct method led to a slowly converging series, ill-suited for numerical determinations.—A monograph on the general morphology of the myxinoid fishes, based on a study of myzine, part. i., the anatomy of the skeleton: Frank J. **Cole.** By controlling the dissections by charts reconstructed from serial sections, the author obtained many results of importance in working out the micro-anatomy of the skeleton. Previous descriptions have thus been much extended, and the phylogenetic origin of the myxinoid skeleton may now be shown to be much simpler than has been hitherto supposed.

July 3.—Prof. Geikie in the chair.—The plant remains in the Scottish peat mosses, part i.: Francis J. **Lewis.** The paper contained a detailed account of the botanical stratification of peat mosses in the Scottish southern uplands, the discussion being in every case based upon evidence derived from freshly cut holes or from borings. The geological horizons were determined in most cases by the fact that the mosses rested on moraines which were known to belong to one of the Glacial periods. The conclusions were in full accord with the views originally put forward by Prof. James Geikie, and demonstrated the existence of the third, fourth, and fifth periods of glaciation in Scotland, those, namely, which are distinguished as (3) the district ice sheets, (4) the mountain valley glaciers, (5) the corrie glaciers.—Dissociation of the action of the auricles and ventricles: Dr. W. T. **Ritchie.** The paper contained an account of curious cases of heart block, a subject first studied scientifically by Gaskell. The graphs of the various pulse rhythms were obtained side by side, enabling the eye at a glance to contrast them and so prove the absolute independence of the action of the auricles and ventricles.—Cape hunting dogs (*Lycaon pictus*) in the gardens of the Royal Zoological Society of Ireland: Prof. D. J. **Cunningham.** The chief interest attached to these dogs was that they had been for the first time reared in captivity. The parents had been got from Holland, and during the four years 1896 to 1900 there had been four litters, but only three of the puppies had been brought to maturity. The peculiar colouring of the adult dog with its yellow and white patches was absent in the puppy stage, but gradually appeared as the animal grew older; also the dark band down the forehead became more marked with age. The animals were very intractable in captivity. An attempt to obtain a cross with a collie failed, the collie when introduced into the cage showing symptoms of excessive fear, while the male Lycaon paid not the least attention to her. The period of gestation in the case of the Cape hunting dog was found to be eighty days, somewhat longer than in the case of the domestic dog.—The Alcyonarians of the Scottish National Antarctic Expedition: Prof. J. A. **Thomson** and James **Ritchie.** The collection contained six new species, and specimens of three forms previously obtained by the *Challenger.* These were found in various latitudes, the furthest south specimen having been obtained in S. lat. 74°, off Coats Land. Our knowledge of the geographical distribution has been thus much extended. Of the beautiful *Umbellula durissima* the *Challenger* obtained one young specimen from the south of Yedo, while Mr. Bruce was fortunate in obtaining about a score of specimens, some of which are larger, older, and of more vigorous growth than that which Kölliker described in the *Challenger* reports.—The theory of determinants in the historical order of development up to 1852: Dr. Thomas **Muir.**—On the action of radium bromide on the electromotive phenomena of the eyeball of the frog: Prof. **McKendrick** and Dr. W. **Colquhoun.** It has been known since 1871 that when the fresh excised eye of a frog is connected by unpolarisable electrodes with a sensitive galvanometer an electric current may be detected, and that definite variations take place in that current when the retina is exposed to the action of light. It is also well known that salts of radium are luminous in the dark, and that when a tube containing radium is pressed against the closed lid of the eyeball a luminous effect is produced. It was of interest to ascertain whether this luminosity was due to the radium causing fluorescence of any of the structures of the eyeball, or whether it was due to the direct action of the radium emanations on the retina itself. The radium employed was kindly lent by Dr. Hardy, of Cambridge. The conclusions were as follows:—(1) The light emanating from radium bromide affects the electromotive phenomena of the living retina of the frog in a manner similar to that of light, although to a considerably less degree; (2) its action is not due to fluorescence of any of the structures of the eyeball, but to direct action on the retina; (3) the retina of the frog will respond to emanations of radium passing through cardboard, blackened paper, thin glass, and aluminium foil, emanations which, when allowed to fall on the human eye in a perfectly dark chamber, do not give rise to a luminous sensation; (4) the frog's eye is sensitive to the feeble light emitted from the surface of fluorescible minerals and fluids rendered fluorescent by radium; (5) the β rays are responsible for most of the effects observed, but after they have been largely excluded by thick glass a slight effect still persists, due presumably to the γ rays; (6) monochromatic light employed in a photographic chamber may still affect the electromotive phenomena of the living retina of the frog; (7) no satisfactory evidence could be obtained of the action of the ultra-violet rays of a lamp filtered through a Wood's screen. The slight movement of the galvanometer observed with light "off" might possibly be accounted for by mechanical disturbance of the apparatus. As already pointed out by Prof. Gotch, there is great advantage in "adapting" the eye to darkness or to coloured light for three or four days.

DUBLIN.

Royal Dublin Society, June 20.—Prof. W. Noel Hartley, F.R.S., in the chair.—On the supply of water to leaves on a dead branch: Prof. H. H. **Dixon.** The fading of leaves on a branch killed by the application of heat is shown experimentally to be due in many cases at least to the introduction into the transpiration current of substances which cause a loss of turgescence of the leaf cells; consequently this fading does not prove that the water supply in these cases is inadequate, but rather that it is contaminated. A diminution, however, of the water supply may be caused by the high temperature, if this latter determines the rupture of the water columns of the tensile transpiration current or brings about the exudation of clogging substances into the conducting tracts from the dying cells. The conclusion, based on the withering of leaves on a killed branch, that the intervention of living cells is necessary to the elevation of the sap is thus rendered superfluous.—On the diagnosis of the eye by means of pinhole-vision: Prof. W. F. **Barrett,** F.R.S. The self-examination of the eye by looking through a pinhole in an opaque screen was termed *entoptic diagnosis* by Listing, who submitted this method to careful examination more than fifty years ago. The author was independently led to a similar discovery by noticing fixed shadows on his own retina when a bright spot of light was looked at. These shadows proved to be due to cataract, and led the author to the construction of an instrument which he calls an *entoptoscope,* whereby the patient can easily draw the exact extent of the obscuration in either eye. By means of two closely adjacent pinholes in a revolving diaphragm in the eye-piece and a transparent scale, the actual magnitude and position of the opacity in the eyeball can be accurately determined.—On secondary radiation (part iii.): Prof. J. A. **McClelland.** A continuation of the author's researches.

PARIS.

Academy of Sciences, July 10.—M. Troost in the chair.—On a calculation of the elastic resistance offered by a tube without longitudinal tension to inflation by a contained liquid column: J. **Boussinesq.**—On some experiments relating to the radio-activity induced by uranium: Henri **Becquerel.** This paper contains a study of the properties of the body formerly discovered by precipitation from the mixed barium and uranium chlorides by sulphuric acid, and since probably identified with Crookes's uranium X. It shows a remarkable stability of activity at very high temperatures.—On the treatment of trypanosomatous disease (surra, mbori) by arsenious acid and trypan red: A. **Laveran.** Extending his investigations on this method of treatment, the author has definitely cured the disease in dogs, animals in which it has always previously proved fatal. No trace of infection could even be found in the blood of the cured dogs.—On the treatment of bone fractures by movement: J. **Lucas-Championnière.** This new method follows a law which surgery hitherto has ignored, that, in spite of their rigidity, bones, like other tissues, require movement to ensure the vitality necessary for recuperation. The practice which the author follows is a peculiar form of massage, and not only conduces to the formation of the hard tissue, but is also favourable to the quick reparation of other neighbouring organs, such as muscles and tendons, involved in the fracture.—On the use of rockets against hail: E. **Vidal.** This paper explains how they are effectual in those cases where the storm centre is at a low altitude.—Researches on algebraic integrals in the motion of a solid heavy body about a fixed point: Édouard **Husson.**—On a new preparation of rubidium and cæsium: L. **Hackspill.** The author finds that these metals can be obtained by a method similar to that for obtaining potassium or sodium, viz. by reduction at a dull red heat of the alkaline chlorides with calcium. The resulting metal does not even attack glass.—A comparison of properties, tests, and classification of ternary steels: Léon **Guillet.**—On the molecular transformations of hydrated ferric sulphate: A. **Recoura.** If a concentrated solution of ferric sulphate be allowed to stand for some days a deposit forms, which rapidly grows until the liquid becomes practically solid. This occurs through the formation of a mixture of basic sulphate and free acid.—On dextro-dilactide: E. **Jungfleisch** and M. **Godchot.**—On the hydrogenation of the ketoximes. A synthesis of new amines: A. **Mailhe.** Among others, acetoxime by reduction with finely divided nickel gives a mixture of isopropylamine and di-isopropylamine.—On the synthesis of a new leucine: L. **Bouveault** and René **Locquin.** This body is probably one of the four possible amino-butyl-acetic acids.—On sparteine, and the symmetric character of the molecule: Charles **Moureu** and Amand **Valeur.**—On a sulphate of chromium which resists the action of reagents: Albert **Colson.**—On the figures formed by pressure or percussion on plastic crystalline metals: F. **Osmond** and G. **Cartaud.** These consist of groups of lines, curved on iron, straight on other plastic metals of the cubic system.—On some points in the morphology of the schizopods: H. **Coutière.**—On the segmentary organs at the moment of sexual maturity among the Hésionians and the Lycoridians: Louis **Fage.**—On the retraction of the mouth in the Chetopods: C. **Viguier.**—On an estimation of the red corpuscles in human blood made at the summit of Mont Blanc: Raoul **Bayeux.** After giving a table of results, the author concludes that a rapid increase in the number of red corpuscles takes place with increasing altitude. This number soon falls off with some rapidity, but remains abnormally high even some time after a return to the lowest point.—On intestinal poisons (their nature, and precautions to be taken against them): MM. **Charrin** and **Le Play.**—On the preparation and properties of protoplasmic extracts from blood corpuscles: Auguste **Lumière,** L. **Lumière,** and J. **Chevrotier.**—On the activity brought about in pure pancreatic juice by the combined influence of colloids and electrolytes: Larguier **des Bancels.** An inactive pancreatic juice becomes under these conditions capable of digesting albumin.—On the decomposition of albuminoids by Actinomyces: E. **Macé.**—On the Tertiary beds of Ouennougha and Medjana (Algeria): E. **Ficheur** and J. **Savornin.**

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